



Our Profile

PENTAGON SWITCHGEAR PRIVATE LIMITED, COIMBATORE a flagship company was established in the year 2005 by experienced Engineers with a sole motto of supplying best quality switchgears and electrical Products. Our Vision is to become leading Switchgear Company globally known for its capabilities to offer best Quality design and Power Engineering Solutions.

PENTAGON with well more than **25** years of rich experience in Electrical design and production has started manufacturing the electrical Products in we equipped, Sophisticated Modern in 6 acres of land with built up area of 65000 Sq. feet in Coimbatore The products are from **Low Voltage panels (LT Panels), Medium Voltage Vacuum Circuit Breakers, Porcelain Clad Breakers, Load Break Switches, Unitized Package Compact Substations, Vacuum Contactors, Oil Cooled Transformers and Insulators, Instrument Transformers.. etc..** to various utilities.

Because of **PENTAGON'S** high quality and best in class manufacturing practices and prompt after sales service, PENTAGON has earned a name in the electrical field and has several repeated customers. It always shines as an **ICON OF QUALITY ENGINEERING.**

All our products were exclusively type tested at CPRI.

Calibration of all meters at NABL  Certified Laboratory

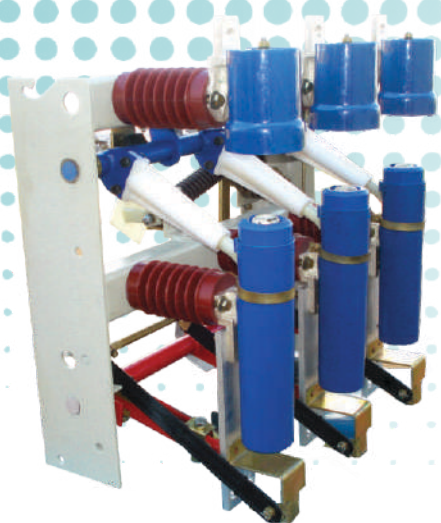
We offer the following range of products:

- Load break switch panels** : Up to 36kV/1600A/26.3kA single pole/triple pole and motorised versions of Indoor/Outdoor/RMU's
- Vacuum circuit breakers** : Indoor/outdoor VCB's from 3.3kV/6.6kV/12kV/24kV/33kV, 630A /800A/ 1250A/ 1600A, 26.3kA/40kA.
- Vacuum contactor** : Open execution, indoor/outdoor vc panels (7.2kV, 400A/11kV, 800A),1 pole or 3 poles.
- 33kV porcelain clad VCB** : 33kV, 1250A/1600A, 25kA
- Unitized sub-stations** : 11kV to 33kV and up to 2500kVA (indoor/ outdoor)
- Transformers** : *Instrument Transformers Upto 33kV, Cl. 0.2s
* Oil Cooled Distribution Transformers Upto 33kV, 2MVA
- LT Panels** : All types of LT Panel modules with ACB, MCCB, SFU's , VFD Panels, MV Panels, Control Panels, Distribution Boards, Motor Control Centre (MCC) Power Control Centre (MCC), Automatic Power Factor Correction Panels (APFC) Cable Ducts, Power Bus ducts, Change Over Panels, AMF Panels and Special Type of Panels



Some Of Our Prestigious Clients

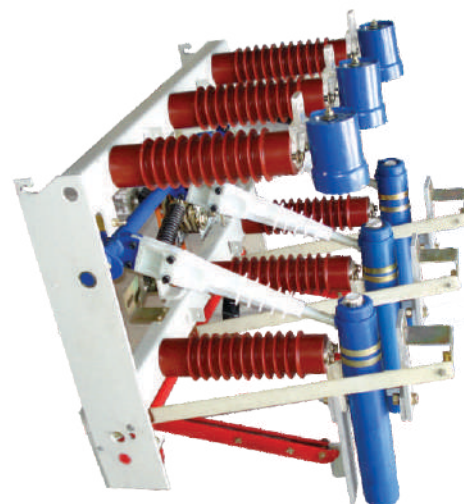
HT LOAD BREAK SWITCHES 12/24/36kV, 400-630 Amps.



**11kV LOAD BREAK SWITCH
WITH ESFT**



**11kV/33kV MOTORISED
LOAD BREAK SWITCH**



**33kV LOAD BREAK SWITCH
WITH ESFT**

Pentagon switchgear private limited manufactures load break switches in three pole/single pole, manual/motorised operated up to 33kV range. Our load break switches are simple but robust design with trouble free mechanism. These switches are used in applications like transformer switching, ring main gears (RMG), capacitor switching, etc.,

Pentagon switchgear private limited offers load break switches that can make/break the normal rated current and make the short circuit current. The design of load break switch is user friendly, and easy in operation with reliable function. Load break switches are type tested at CPRI in accordance with IS 9920 / IEC 60265.

Pentagon switchgear private limited supplies products to BESCO, ESCOMS, water & sewage boards, process industries, other industrial clients through reputed contractors.

Type	Type Reference 12kV	Type Reference 24kV	Type Reference 36kV
Basic Load Break Switch	PSG - 12 - LBS	PSG - 24 - LBS	PSG - 36 - LBS
Load Break Switch with Earth and Fuse Trip Mechanism Switch	PSG - 12 - LBS - ESFT	PSG - 24 - ESFT	PSG - 36 - LBS - ESFT
Load Break Switch with Earth Switch	PSG - 12 - LBS - ES	PSG - 24 - LBS - ES	PSG - 36 - LBS - ES
Load Break Switch with Fuse Trip Mechanism Switch	PSG - 12 - LBS - FT	PSG - 24 - LBS - FT	PSG - 36 - LBS - FT



11kV LBS INDOOR PANEL



11kV LBS OUTDOOR PANEL



33kV LBS INDOOR PANEL

TECHNICAL DATA:

Rated Voltage	12kV	24kV	36kV
Rated Current	400/630 Amps.	400/630 Amps	400/630 Amps
Permissible Services Voltage	10 - 12kV	22 - 24kV	33 - 36kV
Rated Short time current	26.3kA	26.3kA	26.3kA
Rated Making	65 kA (Peak)	65 kA (Peak)	65 kA (Peak)
Type of Break	Air - Break	Air - Break	Air - Break
Rated Insulation Level	25kV/75kV Peak	50kV/125kV	70kV/170kV
Rated Frequency	50 Hz	50 Hz	50 Hz
No. of Poles	3	3	3
No. of Breaks / Pole	Single	Single	Single



6.6kV MOTORIZED LBS INDOOR PANEL

MECHANICAL INTERLOCKS:

- Mechanical interlocks are provided between main switch and earth switch in such a way, the earth switch can be closed only when the main switch is in open condition and vice versa.
- Access to the HT HRC fuses is not possible when the main switch is in on condition.
- Interlocks are provided in such a way that the operating handle can be inserted to operate either main switch or earth switch.

OPTIONAL FITTINGS

Earth switch available as factory – fitted accessory can be mounted above or below the LBS. H.T. Fuses available as factory – fitted accessory and can be mounted above or below the LBS (10A TO 120A.), auxiliary switch available as factory – fitted accessory with 2 NO + 2 NC OR 4 NO + 4 NC for local / remote on, off indication purpose. Live line in indicators can be given as an optional accessory in all the modular panels. HT Fuses, shunt-trip, mechanical castle – interlocks are optional accessories. Shunt trip coils – available standard voltages are 110V AC, 50HZ, 220V AC, 50 HZ, 24V, 30V, 48V, 110V, 220V DC.

We can Provide Fuse Trip Indication.



6.6kV MOTORIZED LBS INDOOR PANEL

- **Pentagon switchgear private limited** offers compact modular load break switch panels in metal clad enclosure with dynamic mimic, extensible on both sides.
- The modular load break switch panels can be used in various combinations such as ring main systems, multi panels etc...
- The ring main system / multi panel configuration finds applications in public and industrial medium voltage distribution networks.

33KV LBS OUTDOOR LINEUP PANEL



11KV LBS 3 PANEL RMU INDOOR



11KV LBS 3 PANEL RMU OUTDOOR

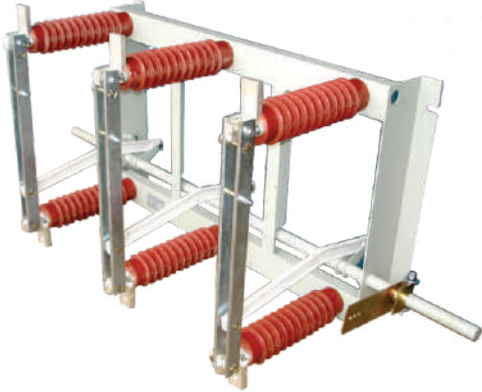


SALIENT FEATURES OF OUR PRODUCTS:

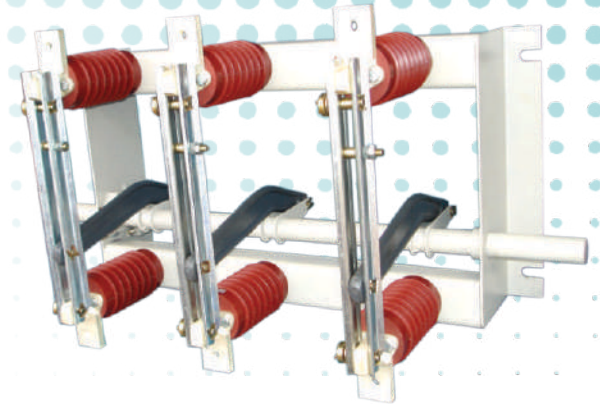
- Available in both indoor / outdoor version and extensible.
- Available with dynamic mimic diagram.
- Metal clad, hence no access to live parts.
- No arc chute hence minimal maintenance.
- Separate HT/LT compartments.
- Maintenance free mechanism.
- Compact design with aesthetic look.
- The panels are powder coated with epoxy / pure polyester base paints to give aesthetically pleasing appearances. The pre treatment process is done by eight tank method. The paint shade shall be as per the requirement of clients.
- Best service network throughout india.

HT OFF LOAD ISOLATORS

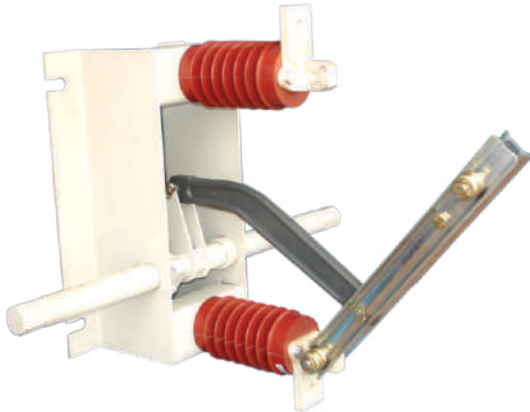
- **Pentagon switchgear private limited** offers panel mounted off load isolators in single pole, three pole (manual/motorised operated) up to 36kV and current ratings from 400 amps to 2500 amps. Off load isolators are suitable for application in NGR process industries, mining, irrigation projects, sub stations, etc.,
- Pentagon offers OLI panels with BYE-PASS, changeover type indoor/outdoor panel.



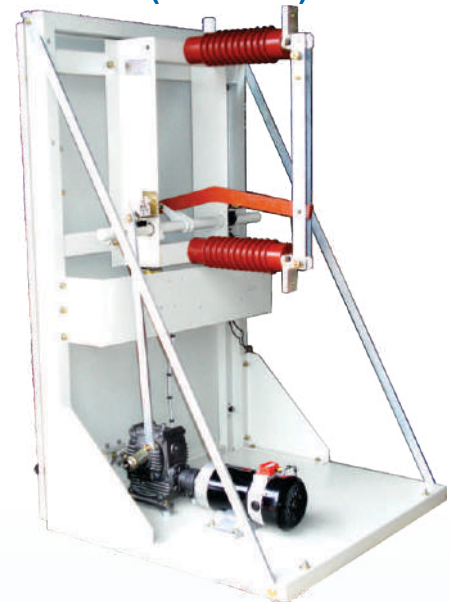
33 kV 3 POLE OFF LOAD ISOLATOR (MANUAL)



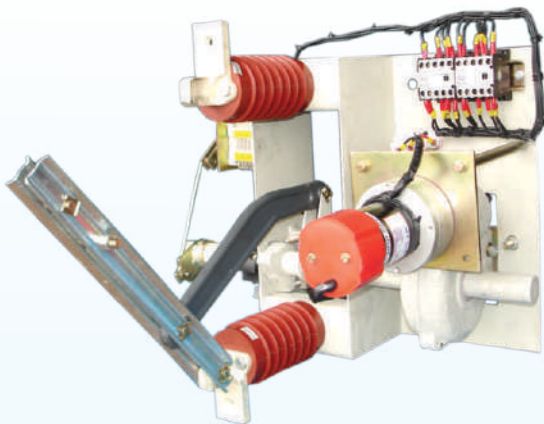
11kV 3 POLE OFF LOAD ISOLATOR (MANUAL)



11kV SINGLE POLE OFF LOAD ISOLATOR (MANUAL)



22kV SINGLE POLE OFF LOAD ISOLATOR (MOTORISED)



11kV SINGLE POLE OFF LOAD ISOLATOR (MOTORISED)



11kV MOTORIZED OFF LOAD ISOLATOR

VACUUM CIRCUIT BREAKER 12/24/36kV 400-2500 AMPS.

Pentagon Switchgear Private Limited offer HV Switchgear panels in metal clad enclosure, fully extensible with horizontal draw out Vacuum Circuit Breakers (single /multi lineup). These breakers are used for switching / protection of power transformers, HT capacitors bank, generators & feeders. These breakers are also used for starting and protecting HT motors and auto re closing duty.

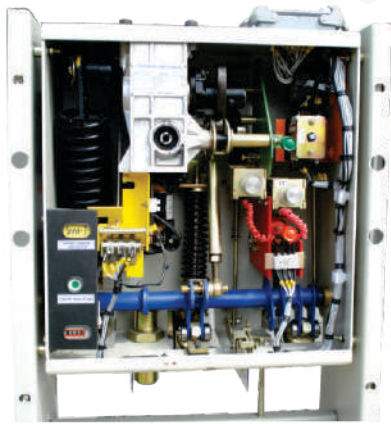


SALIENT FEATURES

- Conforms to IS2147, IEC-62271-100 IEC-60298, AND IEC-60694.
- We use best in class vacuum interrupters for excellent quality.
- Fully compartmentalized & compliance to internal are as per standards.
- Emergency tripping arrangement without opening the breaker chamber front door.
- Self aligning type cluster contacts for robust design.
- Stored energy type spring closing mechanism
- Fully interlocked for operational safety.
- Extensible & modular construction
- High reliability re strike free
- Horizontal draw out type
- Compact design with aesthetic look.
- We are providing exhaust fan with digital temperature controller with suitable space heaters (100W, 200W, 500W) to provide solutions for moisture related failures.
- Our panels has proper louvers for ventilation / natural cooling of the panel.
- The panels are powder coated with epoxy / pure polyester base paints to give aesthetically pleasing appearances. The pre treatment process is done by eight tank method. The paint shade shall be as per the requirement of clients.



VACUUM CIRCUIT BREAKER



11kV VCB TROLLEY



33kV VCB TROLLEY



Pentagon switchgear private limited offers indoor / outdoor vacuum circuit breaker panels. These breakers can be installed as per the requirement at site like indoor or outdoor. The constructional detail of kiosk is explained below.

It consists of manual/motor operated spring charged mechanism of stored energy type. In the closed state of the breaker, the closing springs can perform the duty operation. Facility is also available for hand charging the springs in the event of supply failure. The closing spring is charged by the motor in less than 15 seconds. Electrical anti – pumping feature is also provided. The mechanism is trip free and suitable for rapid re closing. The vacuum interrupters are capable of switching capacitive currents and small magnetizing current.

OUTDOOR VACUUM CIRCUIT BREAKER

The VCB outdoor kiosk can be directly installed on a plinth. The incoming / outgoing supply can be taken either through roof bushings or cable box or a combination of both. The CT's / PT's and relays are inbuilt in the metal enclosure.

11kV VCB OUTDOOR PANEL WITH TOD METER



CONSTRUCTION

Metal clad VCB cubicles are fabricated out of high quality sheet steel by sophisticated manufacturing process, stringent in process quality checks and in house production of all critical components. The panels are vermin proof and with degree of protection IP 4x as per IS 2147 for indoor panel and IP55 for outdoor VCB kiosk panel.

Vacuum circuit breaker panel consists of 4 chambers namely

- Breaker chamber
- Bus bar chamber
- Metering chamber
- CT/PT, Cable chamber

11kV VCB OUTDOOR PANEL WITH ROOF BUSH



11kV 800A VCB INDOOR SINGLE PANEL



BREAKER CHAMBER :

This consists of VCB mounted on a trolley, horizontal draw out type with self aligning type moving contacts. Fixed contacts are covered automatically by movable shutters while draw out the VCB, to ensure no direct contacts with live parts is possible, thus ensuring the safety of operator.

METERING CHAMBER

This consists of all meters, relays, switches, indicating lamps etc, and wired as per the specification of the clients.

BUS BAR CHAMBER

The switchgear panels are provided with single / double bus bars with high electrical grade copper/aluminum depends on the current rating. The 3 phase bus bars are supported on strong epoxy insulation and fixed delta configuration which minimized

Electro- mechanical stresses under short circuit conditions. Bus bars will be provided with sleeve insulation.

22kV INDOOR VCB PANEL



22kV INDOOR VCB PANEL WITH METERING



CT/PT, CABLE CHAMBER

The CT/PT & cable chamber is located at the rear side of the panel and ready access is available by opening the rear cover with safety weld mesh. It is also possible to mount core balance ct's within the cubicle.

EARTHING (OPTIONS)

Earthing through a draw-out earthing truck with solid links on the bus bar / feeder side.

Integral earthing switch, slow closing type or with making capacity

Testing

All our VCB's are tested before dispatch with auto scan multi parameter testing kit.

We strictly follows all the testing procedures as per norms

VCB SCOPE TESTING KIT



11kV VCB 2LBS RMG OUTDOOR (TNEB)



22kV VCB OUTDOOR PANEL



33kV VCB OUTDOOR PANEL

INTERLOCKS

- Interlocks are provided such that breaker closing is prevented in intermediate position between service and test/isolated positions
- Mechanical interlocks to prevent truck racking in/out when breaker is in closed position
- Breaker can be inserted only when control plug & socket in position(optional).
- Control plug & socket can be removed only in isolated position(optional).
- Mechanical castle key interlock with upstream / downstream isolators can be provided on request.

TECHNICAL SPECIFICATION

Rating	Unit	PSGVCB
Rated Voltage	kV	7.2/12/24/36
Rated Current	Amps.	630,800,1250
Symmetrical Breaking Capacity	kA rms	25 / 26.3 / 40
Making Capacity	kAP	62.5 / 65.7 / 100
Short time withstand current (3 Secs)	kA	25 / 26.3 / 40
Opening Time	ms	45 - 50
Total Break Time	ms	55 - 70
Closing Time	ms	55 - 70
Duty Cycle		O - 0.3Secs - CO - 3Mins - CO

11KV 1 VCB 3LBS OUTDOOR LINEUP



UNITISED PACKAGE SUB-STATION (USS) UPTO 36kV AND 2500kVA



11KV 1600KVA OUTDOOR USS WITH OLTC



Pentagon switchgear private limited manufactures various modules of indoor / outdoor type compact package sub-stations from 6.6kV to 33kV and up to 2500kVA transformer capacity with HT/LT switchgear.

Our USS panels are manufactured with superior quality and user friendly products through innovative design and technological upgradation

The unitized sub-station is a compact arrangement, which simplifies conventional sub-station arrangement consists of AB switch, transformer, lightning arresters are mounted on a pole structure.



11KV, 2000 kVA USS PANEL - INDOOR



11 KV, VCB PANEL WITH TRANSFORMER

Our compact sub-station panel is divided in to three compartments (i.e) HV compartment which houses VCB or LBS, the transformer compartment which houses resin cast / resin impregnated/oil cooled transformers, and the LV compartment which houses ACB, MCCB, SFU.etc...

FEATURES

- Fully compartmentalized design
- Indoor/outdoor installations are available
- Compact and occupies less space
- Easy to install
- Easy to operate and less maintenance
- Tailored configuration to meet CUSTOMER requirement
- Aesthetically enhanced look and designed to suit the site topography, which gives pleasing appearance
- Exhaust fans will be provided if required



11KV, 500kVA USS PANEL - INDOOR

APPLICATION

They are ideally suited for new residential and commercial complexes as it can be placed on ground floor or basement or rooftop of the high raises buildings.mainly used by power utilities, multiplexes, hotels, hospitals, shopping malls, software parks, airports, and residential complexes etc...



**11KV 315KVA INDOOR USS WITH LBS
AND KSEB METERING**

Main Advantages

- Reduced electrical losses as USS can be provided near the load centre.
- Cost effective and space saving
- A high degree of safety and operational reliability is achieved by HT and LT switchgear with protective relays.
- Reduction in logistics costs as the USS is delivered as a single unit
- Due to the enclosed construction, it avoids bird hit, human / animal contacts which may lead to fatal accidents, disruption of power supply and power losses in the case of open execution



**11kV, 1000kVA USS PANEL WITH
RMU-OUTDOOR WITH OLTC**



LBS PANEL VIEW WITH DOOR OPEN



11 kV, 500 kVA USS – OUTDOOR

ELECTRICAL INTERLOCK

Our uss panel consists of in-built safety interlocks such as door limit switches for transformer doors/ LT panel doors. If anybody try to open the transformer / LT panel doors accidentally when the sub-station is in energized condition, then the HV switchgear automatically trips and power supply will be cut-off.

MECHANICAL INTERLOCK

Mechanical interlocks will be provided between the hv switchgear and transformer door by means of castle-key arrangement, in such a way that the transformer doors can be opened only when the HV switchgear is switched off and vice-versa.

ORDERING INFORMATION

While placing the purchase order for a unitized sub-station, the following details are to be furnished

- Whether the panel is in indoor or outdoor installation
- Transformer rating in kV / kVA
- Requirement of HT/LT switchgear



33kV, 1000 kVA USS PANEL - OUTDOOR



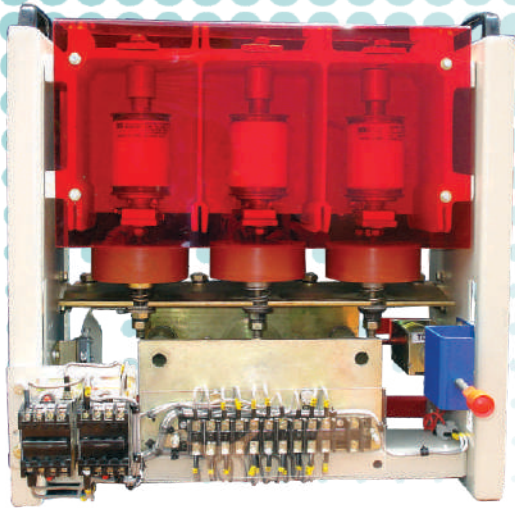
11KV 1250 KVA OUTDOOR USS



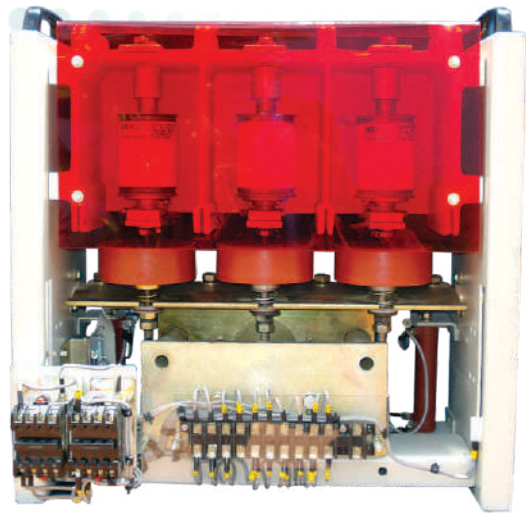
22kV, 2000 kVA TRANSFORMER ENCLOSURE - INDOOR WITH OLTC

HV COMPARTMENT	Load Break Switch with Fuse trip and Earth Switch Mechanism, Shunt trip coil, HTHRC Fuses and with dynamic mimic arrangements.	Vacuum Circuit Breaker with Metering & Protection using Current/Potential Transformers and Relays	Ring main Units Consists of Load Break Switches/VCB Combination.
TRANSFORMER COMPARTMENT	Oil Immersed Transformer or Dry type Resin Cast Transformer		
LV COMPARTMENT	LT Control Panel with ACB and MCCB's or SFU's with Metering		

7.2 kV, 400/800A H.T VACUUM CONTACTOR



MECHANICAL LATCH TYPE



ELECTRICAL LATCH TYPE

INTRODUCTION

Pentagon switchgear private limited manufactures single pole / three pole VACUUM CONTACTOR of ratings 7.2kV, 400A / 800A with electrical latch and mechanical latch types. These vacuum contactors are manufactured using strict quality checks. Vacuum contactors can be supplied as fixed type or trolley type. These contactors can be used for versatile applications such as high voltage motors, transformers, capacitors for improving power factor, electric furnace etc...

Our Vacuum Contactors have the following special properties,

- High breaking capacity
- Less maintenance
- Safety and reliable
- Long life time
- Easy to install
- Compact design
- Mechanical interlock for forward and reverse operation
- Can be well operated even in worst environment condition and frequent operation
- Single phase protection shall be achieved through fuse trip arrangement and relays
- Suitable for High switching Frequency

APPLICABLE STANDARDS		IEC 470 (1974) / IS 9046 (1978)		
			PSGVC-3.6	PSGVC-7.2
Type				
Rated Insulation Voltage		kV	3.6	7.2
Rated Operational Voltage		kV	3.3	6.6
Rated Operational Current		Amps	400	400
Rated Frequency		Hz	50/60	50/60
Rated Short Duration Power Frequency Withstand Voltage		kV	10	20
Rated Lighting Impulse Withstand Voltage		kV	40	60
Closing Time		ms	105-150	105-150
Opening Time		ms	25-40	25-40
Rated Control Voltage		Volts	110/220V AC/DC	
Maximum Applicable Load Capacity	Motor	kW	1500	3000
	Transformer	kVA	2500	5000
	Capacitor (with reactor)	kVAr	2000	2000

OUTDOOR PORCELAIN CLAD VACUUM CIRCUIT BREAKER

INTRODUCTION



Pentagon switchgear private limited manufactures outdoor type porcelain clad vacuum circuit breakers (PSGPC-36), which are structure mounted, easy to install for use in 36kV systems. These breakers are of open terminal type with reliable and well proven vacuum interrupters in weather proof porcelain housing. Adequate phase clearances and heights have been provided to meet standard safety requirements. The three poles are mechanically ganged to a common operating mechanism. It is suitable for direct connection to overhead supply lines.

The operating mechanism is housed in a separate cubicle with manual/motorised spring charged mechanism. The design of this PCVCB incorporates a minimum number of moving parts and a simple assembly which ensures a long electrical and mechanical service life. This breaker is designed to handle all the switching including rapid auto - reclosing. More over quite and low vibration operation and high temperature sustainability enable the breaker to be used in hazardous conditions.

Against customers requirement the breaker can be supplied with extended structure for mounting current transformers & potential transformers, terminal connectors & castle key interlock. We can also offer a separate control & relay panel as per customers requirement which can be installed either indoor or outdoor.

APPLICATION

Control & protection of over head lines, distribution transformers, motors, capacitor banks, power supply utilities. Transformer & switching, substations operated by automobile industries, rolling mills, iron & steel industry, paper & food industries, etc..

Type Tested and conforms to latest IEC/IS Standards

- Hermetically sealed vacuum interrupter to protect contacts
- Free from oxidation & contamination.
- Very minimal maintenance.
- Totally re strike free.
- Low noise level

Features

- Simple, compact for easy to operate.
- Perfect harmony between vacuum interrupter and operating mechanism.
- High reliability and safety of operations.

Suitable for auto re-closing duty.

TECHNICAL SPECIFICATION

Rating	PSGPC	Duty Cycle	O – 0.3sec – CO – 3 min - CO
Rated Voltage	36kV	Opening Time	45 – 50 ms
Power Frequency withstand Voltage	70kV - rms	Total Break Time	55 – 70 ms
Impulse withstand Voltage	170kV Peak	Closing Time	55 – 70 ms
Rated Frequency	50 Hz	Reclosing Time	300 ms
Creepage distance to earth	910 mm	Contact Stroke	22+1 min
Across Breaker	910 mm	Operating Mechanism	230V AC/DC motorised / Manual
Rated Normal Current	1600 A		Spring Charge Operating Mechanism
Rated Short time Current	25 kA	Trip/Close Coil	24V, 30V, 48V, 110V, 230V DC/200W
Rated Short Circuit Duration	3 Secs.	Aux. Contacts	6 NO + 6 NC
First Pole	1.5	Degree of Protection	IP - 55

INDOOR EPOXY RESIN CAST MEDIUM VOLTAGE INSTRUMENT TRANSFORMER

CURRENT TRANSFORMERS

A current transformer operates on the principle of balance ampere turns in primary and secondary winding. Pentagon switchgear ensures consistently excellent product quality and void free castings with minimize errors. Special metering applications of class 0.2s and 0.5s can be offered, multi core and multi ratio CT's for metering, protection and special protection application is also in our scope.

RANGE:

- All types of CT's up to 33kV in three main types such as wound Primary, bar primary and ring type
- Voltage class: 3.3kV to 33kV
- Primary current rating: 5A to 2500A
- Secondary current rating: 5A or 1A
- Class of accuracy: 0.2, 0.2s, 0.5, 0.5s, 1.0
- Standards: IS, IEC, ANSI

FEATURES:

- Non hygroscopic
- Suitable for tropics
- Maintenance free
- Can be installed in any position
- Less space accommodation

CONSTRUCTIONAL DETAILS

Current Transformers

Core is of high permeability CRGO silicon steel material. Toroidal cores from continuous strips and are annealed in controlled atmosphere to achieve best quality secondary cores.

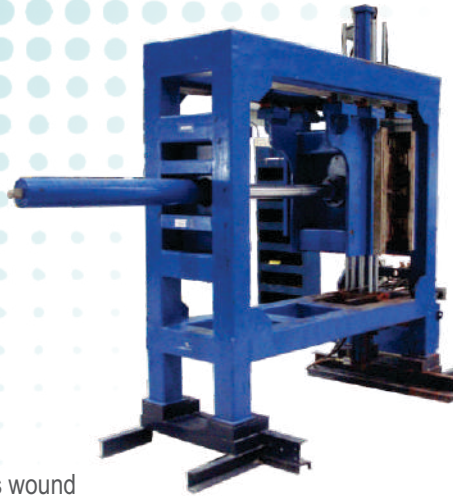
Secondary winding is distributed equally on the periphery of the core to minimize leakage reactance. Good quality enameled copper wire with adequate inter layer insulation is provided to avoid short circuit of secondary winding in most adverse condition.

Primary winding is of electrolytic grade copper strips with suitable insulation covering. The primary is positioned properly to sustain dynamic forces developed during short circuit condition.

Insulation: high quality fiber glass tape is used to built up the insulation of the ct casting is done by vacuum resin mixing cum molding chamber, which gives superior quality transformers

VOLTAGE TRANSFORMERS

A voltage transformer operates on the principle of constant flux. Pentagon switchgear ensures consistently excellent product quality, void free castings and minimize errors by high permeability silicon steel material. We are manufacturing the effectively earthed system, non effectively earthed system and isolated neutral systems



APG



Vacuum casting plant



33kV PT



33kV CT

RANGE:

Primary voltage rating : 3.3kV to 33kV

- Secondary voltage rating : 110V, 110V/root 3, 230V
- Burden : 50VA, 100VA
- Class of accuracy : 0.2, 0.5, 1.0
- Number of phases : single/three

FEATURES:

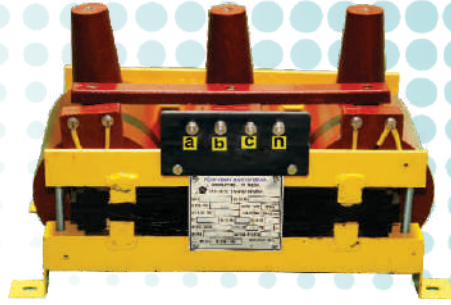
- Primary winding is resin impregnated prior to resin casting
- Dry type
- Non hygroscopic
- Suitable for tropics

CONSTRUCTIONAL DETAILS

CRGO silicon steel is used for building up electromagnetic core. Shell type construction is used to minimize leakage reactance.

For primary and secondary winding, enameled copper wire is used. Primary is wound with multi layer and graded insulation. The diameter and length of each layer is selected such that surge voltage is distributed equally in all layers of the winding. Winding is done in dust free atmosphere.

11kV PT



11kV CT



Maintenance free

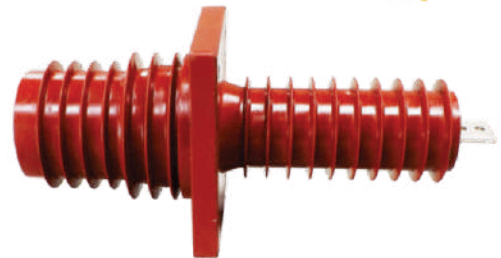
Can be installed at any position

HV/LV windings are completely encapsulated in epoxy resin

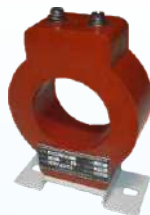
11kV PT



INSULATORS & BUSHINGS



LT CTs



TESTING

- Each current transformer is subjected to all routine tests as per applicable standards and customer specifications.
- The designed CT's / PT's are type tested at approved laboratories for design validation and fault withstand capabilities.
- Our testing LAB is having most advanced automatic instrument transformer testing kit (AITTS-98) with rated burdens.
- All the CT's / PT's pass through the standardized quality assurance plan to ensure top quality at every stage and in the final product.



CT/PT testing kit with AITTS.

OIL COOLED DISTRIBUTION TRANSFORMER UP TO 33kV, 2500KVA



11KV 1000KVA OIL COOLED TRANSFORMER WITH OLTC

PENTRANS

Pentagon Switchgear private Limited is the one of the leading switchgear manufacturer in India for the past ten years. We have equipped with highly professional engineering crew having experience of 20 to 25 years in switchgears.

We offer quality and reliable products to the utilities and various industries. We manufacture's of Load Break Switches, Off Load Isolators, Vacuum Circuit Breakers, Vacuum Contactors, 33kV PCVCB, Instrument Transformers and control panels up to 33kV. All our products were type tested at CPRI. We have our own in house facility for manufacturing all the above products.

As a vision of growth we added one more feather in our crown. Now we are manufacturing oil cooled distribution transformer up to 33kV Voltage class and rating up to 2000kVA as per IS 1180-2014, IS 2026 and Star rated / Energy efficient transformer in the brand name of "PENTRANS".

STAR RATED DISTRIBUTION TRANSFORMERS

Star rated transformers are energy efficient transformers started as a "Green Campaign". These are transformer that carry standard specifications as per Bureau of Energy Efficiency (BEE). The referred Indian Standard are IS1180 (part 1) Outdoor type three-phase distribution transformers of rating 200kVA, 250kVA and up to 2500kVA. We follow the ratings and losses as per the guidance of IS 1180.

FACILITIES

We have 40000 sq ft building for switchgear manufacturing and 13000 sq ft exclusively for transformer manufacturing with EOT crane and latest sophisticated testing facilities to ensure trouble free transformers.

HV AND LV COILS

We use good quality of paper covered copper conductors of electrolytic grades for our coils, the insulation material is made up of highest quality

CORE, CLAMPING

We are using high quality of thin magnetic sheet of cold rolled grain oriented silicon steel with low losses, low excitation and low noise level and we clamping the core with good support to avoid damage during transportation.

STANDARD ACCESSORIES

Rating and Diagram Plate, HT and LV bushings with fittings, lifting hook, silica gel breather, filter valve, Off circuit tap changer, Earthing terminals and thermometer pockets

TESTING

We have Power Analyzer of YOKOGAWA make WT-500 with harmonic analyzer, and high voltage testing kit up to 100kV of AE make and other relevant testing equipments as per standard.

WINDINGS

We have rugged machines for coil winding with tensioner this ensure high short circuit withstanding strength. standard.

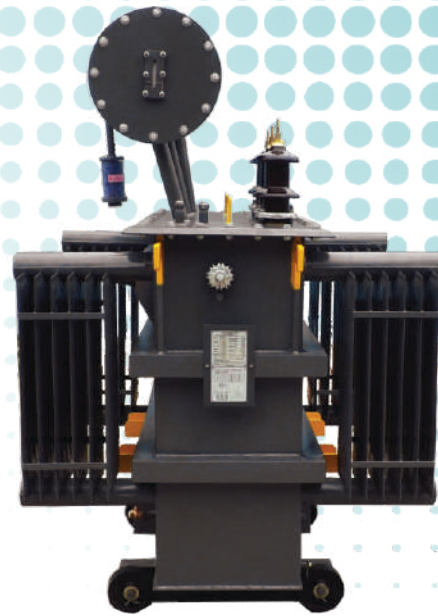
ASSEMBLY

Core and coil assembly done is done to meet the design with special care, our production team maintaining the quality of assembly to avoid failure during short circuit fault with transits damage.

OPTIONAL ACCESSORIES

HT/LV cable boxes, On Load Tap Changer (OLTC) with RTCC, winding temperature indicator, Conservator.

11KV 1000KVA OIL COOLED TRANSFORMER



11KV 1250KVA OIL COOLED TRANSFORMER WITH OLTC



Technical specification	
Ratings	3 phase up to 33kV, 2000kVA
Frequency	50/60HZ
Applicable Standards	IS 2026, IS 1180, IEC 76
Winding	Aluminium/Copper
Core	Stack type, CRGO steel or Amorphous metal
Insulating Oil	Mineral Oil as per IS/IEC
Class of Insulation	Class A
Tap Changer	OCTC/OLTC as per customer requirement

DESIGN AND R & D

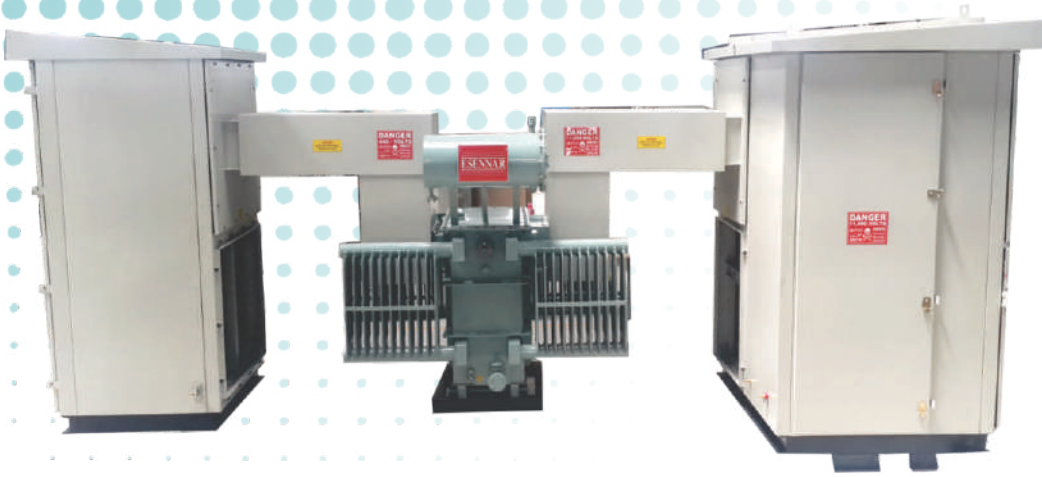
Pentrans Transformers are designed to meet all the latest national and international standards, including IS, IEC etc., All Pentrans Transformers are designed in accordance with customer's specific requirement/standards. High levels of experience and expertise in transformer design and regular investment in research and development has enabled Pentrans to produce energy efficient Transformers as our commitment towards environment, We ensures excellence and competitiveness in quality, performance, price and delivery. The design incorporates every reasonable precaution and provision for the safety of all those concerned in the operation and maintenance.



POWER ANALYZER

We can Manufacture Special type Of Transformers as per Customer

OTHER INSTALLATIONS



11kV OUT DOOR USS WITH OIL COOLED TRANSFORMER



7.2kV INDOOR VACUUM CONTACTOR PANEL



11kV OUTDOOR VCB LINE UP PANEL WITH METERING



33kV OUTDOOR VCB PANEL

LT PANELS



APFC Panel



PCC Panel



MCC Panel



LT Main Distribution Board

OUR INFRASTRUCTURE

LOCATION

Our factory is situated in Kuppepalayam, near Annur, Coimbatore, Tamilnadu which is well connected by rail, road, and air transport. It is 15 kilometers away from airport, 25 kilometers away from railway station/ bus stand. The nearest major cities are Cochin (175 kilometers), Chennai (500 kilometers), Bangalore (350 kilometers)



Turret Punch Press



Fabrication Shop



Hydraulic Busbar Cutting / Bending / Punching Machine



High Voltage Testing Kit



Toroidal Core Winding Machine



Machine Shop

We have sophisticated modern machineries in our production lineup which includes automated lathes, power press, CNC turret punch press (6mm capacity), ARC/CO2 welding machines, CNC hydraulic shearing, CNC hydraulic bending machines, hydraulic bus bar 3-in one cutting, punching and bending machine, stud welding machine, spot welding machine, vacuum casting plant, Toroidal core winding machine, etc.. For manufacturing good quality products.

PENTAGON Where Quality Engineering is a way of life...



An ISO 9001:2015



PENTAGON SWITCHGEAR PRIVATE LIMITED

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DUE TO CONTINUOUS IMPROVEMENT IN DESIGN CHANGE OF PRODUCTS AND DIMENSIONS ARE INEVITABLE

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